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# Mechanical Characteristics on Fatigue Crack Propagation in Aluminum Plate

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**Abstract :** This paper present a mechanical characteristics on fatigue crack propagation in Aluminium Plate based on strain and stress distribution using the abaqus software. The changes in shear strain and stress distribution during the fatigue cycle with crack growth is identified. In progressive crack in the strain distribution and the stress is increase in the critical zone. Numerical Modal analysis of the model developed, prove that the Eigen frequencies of aluminium plate were decreased after cracking, and this reduce is nonlinear. These results can provide a reference for analysts and designers of aluminium alloys in aeronautical systems. Therefore, the modal analysis is an important factor for monitoring the aeronautic structures.

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